

## **REMARKS**

Claims 1 and 10-12, are pending and appear in this application for the Examiner's review and consideration. Claims 2-6 and 8-9 have been cancelled in a previous amendment, and claims 7 and 31-21 are cancelled by virtue of this amendment. Claims 1 and 10 are amended in order to advance prosecution and bring the claims in condition for allowance. The specification is amended to correct informalities. Support for the amendments is found in the original claims and specification. Specifically, support for the term "peptide" is found, *inter alia*, on page 9 lines 10-12; and page 10 lines 1-2. Support for "carboxyl terminal sequence of fibrinogen  $\beta$  chain" is found on page 17 lines 9-15. The human sequence is provided in Table 2A on page 21. As no new matter has been introduced by any of these changes or additions, they all should be entered into the application at this time. In particular, these changes now place the entire application in condition for allowance.

### ***Specification/Claim Objections***

The Examiner objected to the specification for the informalities noted on pages 2-3 of the Office Action. In response, page 16 of the specification has been amended to correct the informalities and for clarity, and replacement drawings for Figures 2, 3 and 7 are submitted herewith. In response to the Examiner's objections to claims 1 and 10 for informalities, the term "wherein the polypeptide or analogue" has been deleted. Furthermore, the continuing data of the current application has been inserted on page 1.

Accordingly, all the objections to the claims and specification should be withdrawn.

### ***Claim Rejection -- 35 U.S.C. § 112, First Paragraph***

Claims 1 and 10-12 were rejected under 35 U.S.C. § 112, first paragraph for lack of written description, for the reasons stated on pages 3-4 of the Office Action. The Examiner asserts that the recitation "synthetic amino acid" lacks support in the specification as filed. Applicants respectfully disagree. Support for "synthetic amino acid" can be found on page 13, lines 11-22. Additional support is found on page 14, lines 1-4: "Hereinafter, the term "peptide" includes both a chain of a sequence of amino acids, and analogues and mimetic having substantially similar or identical functionality thereof, including analogues having synthetic and natural amino acids." However, solely in the interest of advancing prosecution, claims 1 and 10

have been amended to delete reference to a synthetic amino acid. Accordingly, the rejection has been overcome and should be withdrawn.

Claims 1 and 10-12 were further rejected under 35 U.S.C. § 112, first paragraph for lack of enablement, for the reasons set forth on pages 4-7 of the Office Action. The Examiner asserts that the specification provides enablement for polypeptides comprising SEQ ID NO:1 having haptotactic activity, but lacks enablement for functional analogues thereof. Applicants respectfully disagree. One with ordinary skill in molecular biology or chemical synthesis would be able to synthesize peptides analogous to SEQ ID NO:1. Applicant has provided guidance for the preparation of functional analogues by disclosing consensus sequences important for haptotactic activity (see page 18, table 1, bold letters; and page 19, lines 14-21). However, in order to advance prosecution, claims 1 and 10 have been amended to delete reference to functional analogues of SEQ ID NO: 1. The claims now require a peptide having an amino acid sequence set forth in SEQ ID NO: 1. Such peptide is clearly enabled by the specification, as admitted by the Examiner, so that the rejection has been overcome and should be withdrawn.

***Claim Rejection -- 35 U.S.C. § 112, Second Paragraph***

Claims 1 and 10-12 were rejected under 35 U.S.C. § 112, second paragraph, for being indefinite. Again the Examiner argues that the terms "functional analogue", "...other than an entire fibrinogen  $\beta$ -chain" and "a composition" are unclear. As stated above, the claims have now been amended to delete reference to analogues of SEQ ID NO: 1. In addition, the claims were amended to specify a peptide derived from a human fibrinogen  $\beta$ -chain. Also, claim 10 is clearly drawn to a composition comprising a peptide having SEQ ID NO:1.

Accordingly, all the rejections based on 35 U.S.C. § 112, second paragraph have been overcome and should be withdrawn.

***Claim Rejections -- 35 U.S.C. § 102***

Claims 1 and 10-12 were rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by WO 99/61041 ("Gorodetsky et al."), for the reasons set forth on pages 8-9 of the Office Action.

Applicants respectfully traverse. The present application is a continuation-in-part of application Ser. No. 09/084,371 ("the '371 application"), filed May 27, 1998, from which

Gorodetsky et al. claim priority. The specification has been amended to recite the continuing data to the '371 application. The subject matter of claims 1 and 10-12 is fully supported by the disclosure of the '371 application, as is apparent by Gorodetsky et al. For example, as acknowledged by the Examiner, page 6 lines 27-30 of Gorodetsky et al. discloses a  $\beta$ -fibrinogen C-terminal peptide comprising SEQ ID NO: 1; the peptide having haptotactic activity, e.g., having cell adhesive effect. Also, the Example on pages 21-22 and Figures 2 and 3 of Gorodetsky et al. show the haptotactic effect of several peptides bound to sepharose beads (SB), including SB-09 (SEQ ID NO: 1). Gorodetsky et al. also teach a composition comprising the peptide of SEQ ID NO: 1 (see, e.g., claim 10 on page 33), which composition further comprises a pharmaceutically acceptable carrier (see, e.g., claim 11 on page 34), and a biological agent (see, e.g., claim 12 on page 34).

Since the present application claims priority to the '371 application, Gorodetsky et al. does not qualify as valid prior art, so that the rejection should be withdrawn.

Claim 1 was rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Henschen et al. ("Human fibrinogen sequence, sulfur bridge, glycosylation and some structural variants", in "Protides of the Biological Fluids" (1980) Proc. 28<sup>th</sup> Colloq., Peeters, H., ed., page 51-56), for the reasons set forth on pages 9-10 of the Office Action. Claims 1, 10 and 12 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Yee et al. (Structure (1997) 5, 125-138), for the reasons set forth on pages 10-11 of the Office Action. Claims 1 and 10 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Mayo et al. (Biochemistry (1990) 29, 3277-3286), for the reasons set forth on page 11 of the Office Action. The Examiner asserts that each of Henschen et al., Yee et al. and Mayo et al. anticipates the claims if and when all or most of the amino acids in SEQ ID NO: 1 are substituted.

Applicants respectfully traverse. The claims have been amended to exclude functional analogues of SEQ ID NO: 1 wherein one or more amino acids have been substituted. Accordingly, none of the above references anticipates the claims, so that all of the aforementioned rejections under 35 U.S.C. § 102(b) have been overcome and should be withdrawn.

***Claim Rejections -- 35 U.S.C. § 102/103***

Claims 1 and 10-12 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by, or in the alternative under 35 U.S.C. § 103(a) as allegedly being obvious over, Pandya et al. (J. Biol. Chem. (1985) 260, 2994-3000), for the reasons set forth on pages 12-13 of the Office Action. The Examiner asserts that Pandya teaches a fibrinogen polypeptide which comprises SEQ ID NO: 1.

Applicants respectfully traverse. The claims have been amended to require a synthetic peptide having SEQ ID NO: 1. Pandya does not teach a synthetic peptide of SEQ ID NO: 1, and hence does not anticipate the claims. Accordingly, the rejection has been overcome and should be withdrawn.

Accordingly, independent claims 1 and 10 are now believed to be in condition for allowance. That being the case, dependent claims 11 and 12 are also allowable.

In view of the preceding, it is believed that the entire application is in condition for allowance, early notification of which would be appreciated. Please call the undersigned to expedite the allowance of all claims in this application.

Respectfully submitted,

Date

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